

No. 686,787.

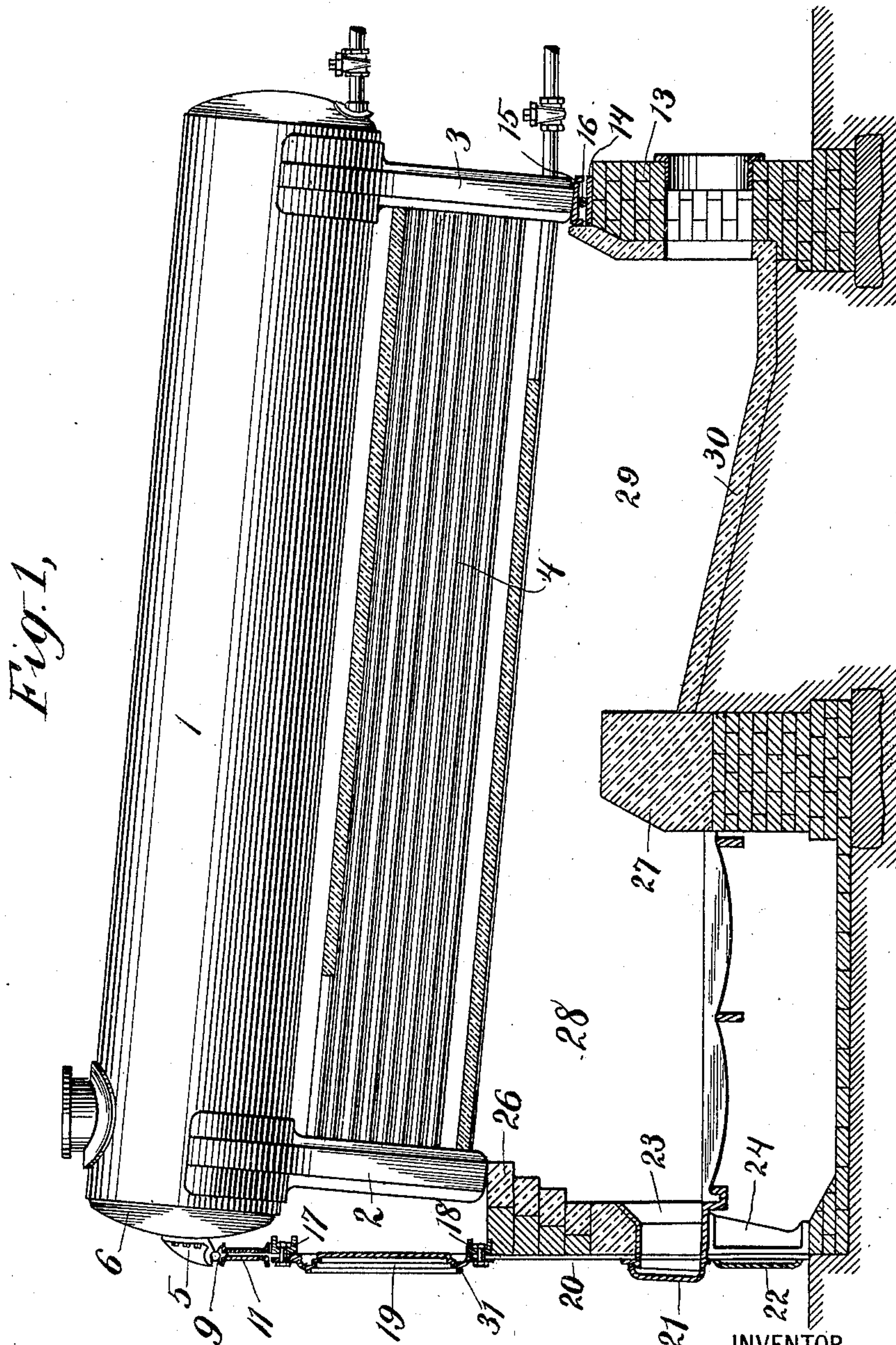
Patented Nov. 19, 1901.

H. L. VAN ZILE.
BOILER SETTING AND SUPPORT.

(Application filed Mar. 6, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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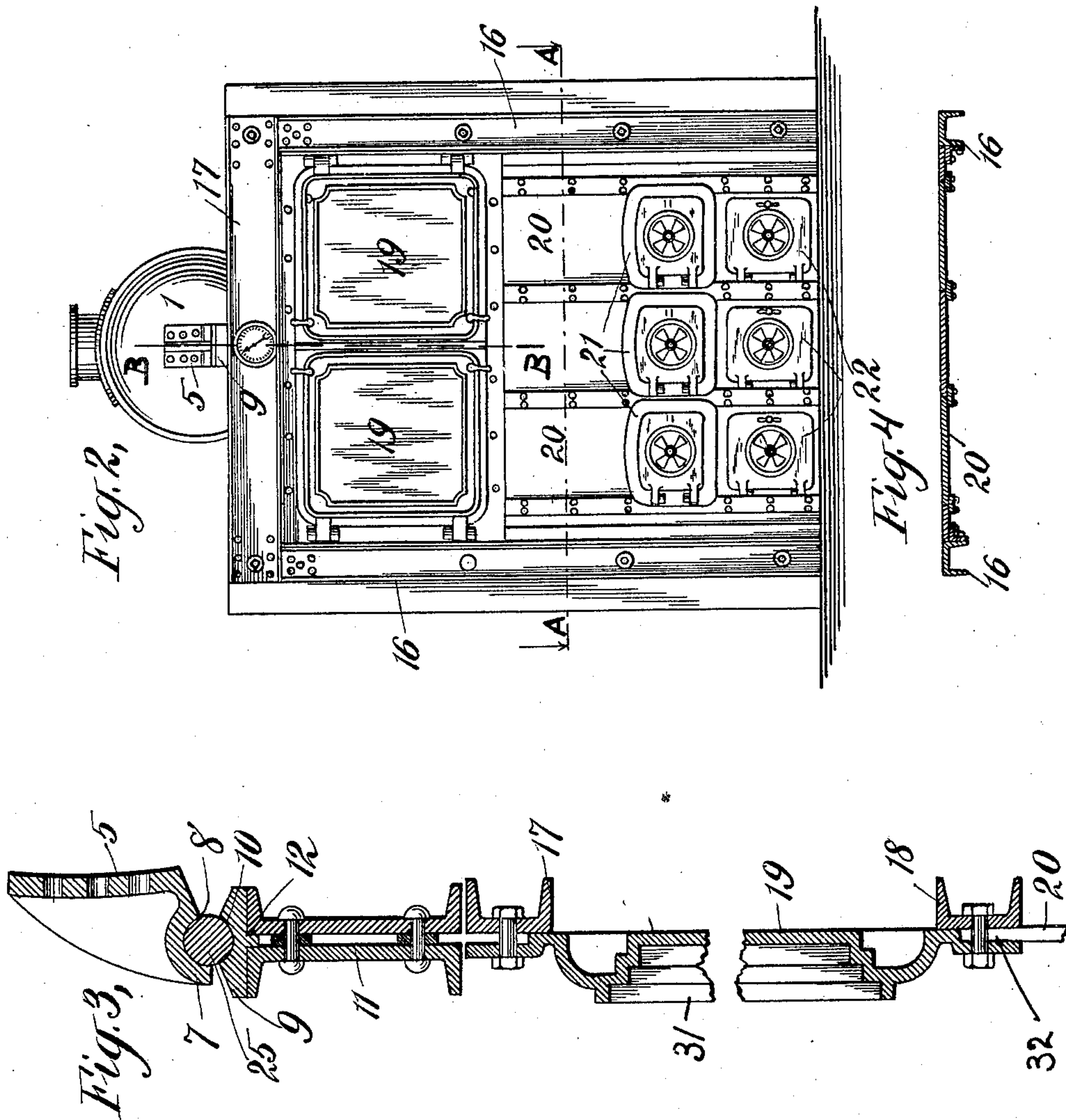
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UNITED STATES PATENT OFFICE.

HARRY LEE VAN ZILE, OF NEW YORK, N. Y.

BOILER SETTING AND SUPPORT.

SPECIFICATION forming part of Letters Patent No. 686,787, dated November 19, 1901.

Application filed March 6, 1901. Serial No. 50,023. (No model.)

To all whom it may concern:

Be it known that I, HARRY LEE VAN ZILE, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Boiler Settings and Supports, of which the following is a specification.

My invention relates to improvements in boiler settings and supports, and it is especially applicable to the type of boiler known as the "water-tube" type.

The objects of my invention are to produce a boiler-setting which shall be simple and effective in its construction and operation and one especially convenient for erection and also one that may be readily adapted either for manual or mechanical stoking.

My invention consists in securing to the front of the steam-drum a short lug which has a pivotal support resting upon a transverse girder, the said girder, which at the same time forms part of the boiler-front, being secured at its ends to vertical columns forming part of the frame for the boiler-front in such a way that the said transverse girder intermediate of its ends is independent of those portions of the boiler-front which are beneath it, in supporting the tube-cleaning doors upon transverse girders, in covering the fire-front below the tube-cleaning doors with a series of plates, each plate containing a firing-door and an ash-pit door for manual firing, and in so securing said plates in position that they may be readily removed for the installation of mechanical stokers, leaving a clear space the entire width of the furnace, and in other novel features of construction to be hereinafter more fully pointed out and described.

In the drawings accompanying and forming part of this specification, Figure 1 represents a vertical longitudinal section showing a boiler supported by my improved boiler-setting. Fig. 2 represents a front view of the same. Fig. 3 represents a partial transverse section, on an enlarged scale, on line B B, Fig. 2. Fig. 4 represents a partial transverse section on line A A, Fig. 2.

Reference characters are used in the same sense in all of the drawings and the specification.

Numerals 1 represents the cylindrical shell of a water-tube boiler.

2 represents the front and 3 the rear water-leg.

4 represents the water-tubes connecting the front and rear water-legs.

5 represents a bracket secured to the front head 6 of the drum 1 by bolts or rivets. This bracket is provided with the lower transverse flange 7, having the concave cylindrical recess 8.

9 represents a bearing-plate adapted to rest on the girder 11. This plate is provided with the concave cylindrical recess 10, and I prefer to form the girder of two channel-bars, as shown, separated by a short space for receiving the tongue 12 of the bearing-plate 9. Between the recesses 8 and 10 is a cylindrical pin 25, adapted to fit said recesses. This pin 25 may be formed integrally with the bracket 5 of the bearing-plate 9.

The rear of the boiler is supported by the rear wall 13, on which there is a bearing-plate 14, the shoe 15 being placed under the bottom of the rear water-leg and a roller 16 being placed between the said shoe and said bearing-plate.

The girder 11 is supported at its ends upon vertical columns 16. Secured to said columns are two transverse girders 17 and 18, preferably made of channel-bars, and which girders are independent of the girder 11. Secured to the girders 17 and 18 is the frame 31 for the flue-cleaning doors 19. Between the lower flange of the frame 31 and girder 18 is formed the recess 32, which receives the upper ends of the plates 20. In the plates 20 are mounted the frames for the fire-doors 21 and the ash-pit doors 22.

23 represents the jamb, which is supported by the short columns 24, which support the brick arch 26.

27 represents the bridge-wall which divides the firing-chamber 28 from the combustion-chamber 29. The floor 30 of the combustion-chamber is formed of any suitable material, preferably brick, and inclines upwardly from the rear wall to the upper portion of the bridge-wall 27, thereby giving substantial support to the bridge-wall, which, as heretofore constructed, is frequently knocked out of place by being rammed with the bars used to clean

the grate. It will be seen that by means of this construction the boiler may be pitched at various angles without in any way affecting its front support. The bracket 5 is relatively narrow, and the rollers 16 are located some distance apart, so that the boiler is practically supported by three points, thereby avoiding any undue strains due to unequal expansion or contraction and greatly facilitating the erection of the boiler. It is also seen that the support for the flue-cleaning doors 19 is independent of the girder 11 and that the frame for said doors, which is usually made of cast-iron, is not likely to be cracked or injured, as might happen if there were a connection between the girder 11 and the girder 17, supporting the flue-cleaning doors. It is also seen that the plates 20, which carry the firing-doors 21 and ash-pit doors 22, may be easily removed without disturbing the flue-cleaning doors or the boiler-support in case it is desired to install a mechanical stoker.

Having thus described my invention, what I claim is—

1. In a boiler-support, the combination with the boiler-shell of a bracket secured to the

front head of said shell, a transverse girder located beneath said bracket and a pivotal connection between said girder and said bracket.

2. In a boiler-support, the combination with the boiler-shell, of a bracket having a concave recess in its lower side, a girder located beneath said bracket, a bearing-plate on said girder, having a concave recess in its upper side, and a cylindrical pin engaging the concave recesses in said bracket and said bearing-plate.

3. In a boiler-support for water-tube boilers, having front and rear water-legs connected by a steam-drum, the combination with a roller-bearing under said rear water-leg of a bracket secured to the front head of said steam-drum, and a transverse girder located beneath said bracket.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY LEE VAN ZILE.

Witnesses:

C. F. CARRINGTON,
EDW. B. HAWKINS.